

From: Wayne Hedberg
To: Minerals
Date: Friday, March 22, 1996
Subject: USMX/DWQ/DOGM Closure Mtg. - M/053/005

On March 21, 1996 (3:00 - 5:15pm), I met with representatives from USMX of Utah Inc., JBR (USMX's consultant) and DWQ at the Cannon Health Building. The purpose of the meeting was to discuss USMX's draft closure proposal for the remaining heaps and processing facilities at the Goldstrike Mine. We also were introduced to Doug Jensen (a new Goldstrike employee), who will be replacing Robert Wilson at the mine. Mr. Jensen has had experience in closing USMX's Green Springs Project (gold heap leach) in Nevada. He will now oversee the final reclamation and closure activities at the Goldstrike mine.

Robert Wilson presented DWQ and myself with copies of their first rough draft of a closure plan for the heaps and remaining ancillary processing facilities at the mine. He asked for comments/feedback from the regulatory agencies within the next 30-60 days if possible. They want to know if their conceptual closure plan will be considered by the respective agencies or not before they commit any additional time, money and energies into finalizing the proposal.

Mr. Mahmood Azad (JBR) explained the basic concept behind the anoxic bioreactor which USMX is proposing to use as a means of treating the leachate that will continue to drain down from the heaps (proposed 35 yr. design life). Apparently the current leachate will not meet DWQ's established water quality standards for arsenic, selenium, nitrate, and lead. The bioreactor will be used to precipitate out the metals as insoluble hydroxide compounds.

A small pilot-scale bioreactor will be built and tested onsite within the next 30-45 days to test the effectiveness in the field, before they expand their designs for the large scale treatment project. The pilot-scale plant will be totally self-contained using existing facilities with minor modifications. It is anticipated that the pilot scale bioreactor will be tested for at least 90 days before they will have sufficient data to confirm its effectiveness. Both DWQ and DOGM personnel agreed that no additional permitting would be necessary from either agency for the pilot-scale testing.

Also discussed at the meeting was the issue of whether Heap #1 (which is almost completely reclaimed) should be ripped to the 12" depth as presently permitted by DOGM. DWQ has expressed concerns that deep ripping could cause problems with increased rates of leachate production from the heap that would require supplemental treatment to meet water quality standards (i.e., possibly affecting bioreactor sizing and effectiveness). Following discussions concerning the nature of the leached ore, depth of applied topsoil (@12" average depth) and basic erosional/stability consideration it was agreed that contour ripping to 12" or less, then drill seeding, would probably not cause significant long term problems which could not be adequately handled by the proposed treatment system.

Attendees at the meeting included the following:

USMX - Robert Wilson and Doug Jensen
JBR - Robert Bayer, Mahmood Azad
DWQ - Fred Pehrson, Kiran Bhayani, Mack Croft, Dennis Frederick, Lyle Stott
DOGM - Wayne Hedberg

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